APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,277	02/19/2002	Adnan Kavak	SAMS01-00171	3424

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EXAMINER
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ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*19 February 2002*</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>*02/02/2004*</u>.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   The abstract of the disclosure is objected to because it exceeds 150 words. Correction is

required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Chheda et al.

(US 6,996,056 B2), hereinafter referred to as Chheda.

    Regarding claims 1, 11, and 21, Chheda discloses a method and apparatus for orthogonal

code management in CDMA system using smart antenna technology, which comprises:

A database capable of storing R active wireless terminal records, each said R active

wireless terminal records containing: an active orthogonal code and corresponding downlink

beamforming coefficients used to communicate with one of said wireless access terminals

(Referring to Figures 2 and 3B, a cell includes a base station transceiver system **204** that

communicates with mobile stations utilizing CDMA in which communication channels between

the BTS and each mobile station is created by one of a group of orthogonal codes (stored) using

smart beamforming antennas with preselected coefficients. See column 5, lines 14-17; column 8, lines 49-54; and column 11, lines 17-29;) and

   Controller associated with said database capable of receiving a notification that a new wireless access terminal is accessing said base station and, in response to said notification, comparing said each of said R active wireless terminal records to new downlink beamforming coefficients suitable for forming a downlink transmit beam for transmitting to said new wireless access terminal and, in response to said comparison, determines at least one active wireless terminal record containing corresponding downlink beamforming coefficients that have the least correlation with said new downlink beamforming coefficients (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station with corresponding beamforming coefficients based upon interference. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

   Regarding claims 2, 12, and 22, Chheda discloses *wherein said controller assigns an active orthogonal code in said at least one active wireless terminal record to be used in downlink transmissions to said new wireless access terminal* (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station with corresponding beamforming coefficients. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

Regarding claims 3, 13, and 23, Chheda discloses *wherein said base station uses up to K orthogonal codes for said downlink transmission and said controller compares said each of said R active wireless terminal records to said new downlink beamforming coefficients in response to a determination that all of said K orthogonal codes are in use* (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station with corresponding beamforming coefficients. The table tracks all antennas as well as tracking the beamwidth. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

Regarding claims 4, 14, and 24, Chheda discloses *wherein said controller determines a first plurality of active wireless terminal records containing corresponding downlink beamforming coefficients that have the least correlation with said new downlink beamforming coefficients and further determines from said first plurality of active wireless terminal records a first active wireless terminal record containing an active orthogonal code used for downlink transmissions to a least number of said plurality of wireless access terminals* (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station with corresponding beamforming coefficients. The table tracks all antennas as well as tracking the beamwidth. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

Regarding claims 5 and 15, Chheda discloses *wherein said controller assigns said active orthogonal code in said first active wireless terminal record to be used in downlink transmission to said new wireless access terminal* (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station with corresponding beamforming coefficients. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

Regarding claims 6 and 16, Chheda discloses *wherein said base station is operable to communicate in S sectors of a cell site associated with said base station and said base station uses up to K orthogonal codes in each of said S sectors for said downlink transmissions and wherein said controller compares said each of said R active wireless terminal records to said new downlink beamforming coefficients in response to a determine that all of said K orthogonal codes are in use in a first sector in which said new wireless access terminal is accessing said base station* (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station with corresponding beamforming coefficients. The table tracks all antennas as well as tracking the beamwidth to track interference. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

Regarding claims 7 and 17, Chheda discloses *wherein said controller determines a first plurality of active wireless terminal records containing corresponding downlink beamforming coefficients that have the least correlation with said new downlink beamforming coefficients and further determines from said first plurality of active wireless terminal records a first active wireless terminal record containing an active orthogonal code used for downlink transmissions to a least number of said plurality of wireless access terminals* (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station with corresponding beamforming coefficients. The table tracks all antennas as well as tracking the beamwidth to track interference. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

Regarding claims 8 and 18, Chheda discloses *wherein said controller assigns said active orthogonal code in said first active wireless terminal record to be used in downlink transmission to said new wireless access terminal* (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a communication channel with BTS **302**. Since there are no unused orthogonal codes that are available for creating a communication channel with the mobile station **304** an orthogonal code is reused by the mobile station. See column 12, lines 11-20; column 12, lines 1-11; and column 11, lines 17-29.)

Regarding claims 9 and 19, Chheda discloses *wherein said controller receives said new downlink beamforming coefficients from a beamforming controller that determines said new downlink beamforming coefficients from an uplink signal transmitted by said new wireless*

access terminal (Referring to Figures 3A, 3B, and 3C, a mobile station is traveling into zone 2

and is requiring an orthogonal code to create a communication channel with BTS **302**. Since

there are no unused orthogonal codes that are available for creating a communication channel

with the mobile station **304** an orthogonal code is reused by the mobile station with

corresponding beamforming coefficients. The table tracks all antennas as well as tracking the

beamwidth to track interference. See column 12, lines 11-20; column 12, lines 1-11; and column

11, lines 17-29.)

Regarding claims 10 and 20, Chheda discloses *wherein said base station is operable to*

communicate in S sectors of a cell site associated with said base station and said new wireless

access terminal is being handed off from a first sector of said cell site to a second sector of said

cell site, wherein said each of said R active wireless terminal records are associated with said

second sector and said controller receives said new downlink beamforming coefficients from

active wireless terminal records associated with said first sector (Referring to Figures 3A, 3B,

and 3C, a mobile station is traveling into zone 2 and is requiring an orthogonal code to create a

communication channel with BTS **302**. Since there are no unused orthogonal codes that are

available for creating a communication channel with the mobile station **304** an orthogonal code

is reused by the mobile station with corresponding beamforming coefficients. The table tracks

all antennas as well as tracking the beamwidth to track interference. See column 12, lines 11-20;

column 12, lines 1-11; and column 11, lines 17-29.)

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The

examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills

March 19, 2006

JOHN PEZZLO
PRIMARY EXAMINER